

WHAT IS CLAIMED IS:

1. A valve operating device for an internal combustion engine, comprising a camshaft in a separate cylinder head of the internal combustion engine to control the stroke of a charge exchange valve with an interposed rocker arm which is journaled in the cylinder head on a reciprocating piston of a hydraulic valve clearance compensating element, wherein the piston has an arrangement for the engagement of a tool for a mechanical lifting action for a clearance-free surface-to-surface contact of surfaces of the rocker arm and of an additional valve operating element in the case of the valve clearance compensating element held without hydraulic pressure.
2. The device according to claim 1, wherein the piston is equipped with a separate device for positive and/or frictional engagement with the tool.
3. The device according to claim 2, wherein the piston of the valve clearance compensating element which can be supplied partially filled with oil has an external circumferential groove between a guiding section and a rocker arm joint head as a separate device having a fork-like end section for engagement by the tool.
4. The device according to claim 3, wherein the piston is operated in the lifting direction by the tool acting linearly or rotationally or rockingly, and to sustain the surface-to-surface junction between the contact surfaces on the valve operating side, force is applied to the tool.
5. The device according to claim 4, wherein the charge exchange valve is adjustable for various stroke lengths, the rocker arm is equipped with a wheel, with a control track including an idle stroke cam and a stroke cam of a lever operated by the camshaft against the action of a return spring, whose starting position corresponding to the particular stroke variation is adjustable under control/regulation.
6. The device according to claim 2, wherein the piston is operated in the lifting direction by the tool acting linearly or rotationally or rockingly, and to sustain

the surface-to-surface junction between the contact surfaces on the valve operating side, force is applied to the tool.

7. The device according to claim 6, wherein the charge exchange valve is adjustable for various stroke lengths, the rocker arm is equipped with a wheel, with a control track including an idle stroke cam and a stroke cam of a lever operated by the camshaft against the action of a return spring, whose starting position corresponding to the particular stroke variation is adjustable under control/regulation.

8. The device according to claim 1, wherein the piston is operated in the lifting direction by the tool acting linearly or rotationally or rockingly, and to sustain the surface-to-surface junction between the contact surfaces on the valve operating side, force is applied to the tool.

9. The device according to claim 8, wherein the charge exchange valve is adjustable for various stroke lengths, the rocker arm is equipped with a wheel, with a control track including an idle stroke cam and a stroke cam of a lever operated by the camshaft against the action of a return spring, whose starting position corresponding to the particular stroke variation is adjustable under control/regulation.

10. A method for using a valve operating device comprising the steps of:

positioning and fixing a separated cylinder head in an apparatus without a hydraulic pressure connection;

mechanically lift-actuating pistons of all equalizing elements with automatically supplied tools for the clearance-free surface-to-surface connection of contact surfaces of a rocker arm and of an additional valve operating element with a controlled contact force,

bringing all levers of a variable-stroke valve operating device into position in regard to their pivot points for a predetermined minimum stroke of all charge exchange valves, and

coupling a camshaft with a drive device disposed in an apparatus and driving the camshaft at a predetermined rotary speed, while determining at least the valve strokes using extensometers drivingly connected to the moving charge exchange valves, which are displayed on a monitor with a given tolerance band and are furthermore documented.